

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

**Thorsten Heinzl**

Examiner: AEDER, SEAN E

Serial No.: 10/528,104

Group Art Unit: 1642

Filed: SEPTEMBER 28, 2005

Confirmation Number: 3483

Title: **USE OF MOLECULAR MARKERS FOR THE PRECLINICAL AND CLINICAL  
PROFILING OF INHIBITORS OF ENZYMES HAVING HISTONE  
DEACETYLASE ACTIVITY**

**AMENDED BRIEF UNDER 37 C.F.R. § 41.37**

Mail Stop **Appeal Brief- Patents**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Further to the Notice of Non-Compliant Brief mailed January 12, 2009, attached herewith is the Exhibit cited in the Section IX of Appellants' Brief on Appeal.

**Remarks/Arguments** begin on page 2 of this paper.



## REMARKS

The Examiner is thanked for her careful reading of the Brief. The Wikipedia article on Antisense RNA, which was cited in the EVIDENCE APPENDIX section of the brief, is enclosed herewith. Consideration thereof is earnestly solicited.

In view of the above remarks, favorable reconsideration is courteously requested. If there are any remaining issues which could be expedited by a telephone conference, the Examiner is courteously invited to telephone counsel at the number indicated below.

The Commissioner is hereby authorized to charge any fees associated with this response to Deposit Account No. 13-3402.

Respectfully submitted,

/Anthony J. Zelano/

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Attorney Docket No.: LEDER-0015

Date: January 16, 2009



# EXHIBIT A



# Antisense RNA

From Wikipedia, the free encyclopedia  
(Redirected from Antisense mRNA)

**Antisense RNA** (**aRNA**) is single-stranded RNA that is complementary to a messenger RNA (mRNA) strand transcribed within a cell. Antisense RNA may be introduced into a cell to inhibit translation of a complementary mRNA by base pairing to it and physically obstructing the translation machinery. This effect is therefore stoichiometric. An example of naturally occurring mRNA antisense mechanism is the hok/sok system of the E.coli R1 plasmid. Antisense RNA has long been thought of as a promising technique for disease therapy; the only such case to have reached the market is the drug fomivirsen. Generally, antisense RNA still lack effective design, biological activity, and efficient route of administration.<sup>[1]</sup>

Historically, the effects of antisense RNA have often been confused with the effects of RNA interference, a related process in which double-stranded RNA fragments called small interfering RNAs trigger catalytically mediated gene silencing, most typically by targeting the RNA-induced silencing complex (RISC) to bind to and degrade the mRNA. Attempts to genetically engineer transgenic plants to express antisense RNA instead activate the RNAi pathway, although the processes result in differing magnitudes of the same downstream effect, gene silencing. Well-known examples include the Flavr Savr tomato and two cultivars of ringspot-resistant papaya.<sup>[2][3]</sup>

## References

- <sup>^</sup> Antisense Oligonucleotides: Basic Concepts and Mechanisms Nathalie Dias and C. A. Stein. Columbia University, New York, New York 10032
- <sup>^</sup> Sanders RA, Hiatt W. (2005). Tomato transgene structure and silencing. *Nat Biotechnol* 23(3):287-9. PMID 15765076
- <sup>^</sup> Chiang C, Wang J, Jan F, Yeh S, Gonsalves D (2001). "Comparative reactions of recombinant papaya ringspot viruses with chimeric coat protein (CP) genes and wild-type viruses on CP-transgenic papaya". *J Gen Virol* 82 (Pt 11): 2827-36. PMID 11602796

Retrieved from "[http://en.wikipedia.org/wiki/Antisense\\_RNA](http://en.wikipedia.org/wiki/Antisense_RNA)"

Categories: Cell biology stubs | Antisense RNA

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